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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION**

LINDSEY CARR, individually and on behalf of all
others similarly situated,

Plaintiff,

v.

QUALCOMM INCORPORATED,

Defendant.

Case No.

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

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1 Plaintiff brings this action on behalf of herself and all others similarly situated against defendant
2 Qualcomm Incorporated for claims under Sections 1 and 2 of the Sherman Antitrust Act, California's
3 Cartwright Act, and California's Unlawful Competition Law, for injuries she has suffered as a result of
4 Qualcomm's unlawful maintenance of monopoly power—which it furthered through agreements with
5 Apple, Incorporated—that inflated the price that Plaintiff and the Plaintiff Class paid Apple for iPhones
6 and iPads.

7 **I. OVERVIEW OF ACTION**

8 1. Plaintiff is a direct purchaser of Apple iPhones and iPads, each of which contains a
9 baseband processor, or modem chipset. This processor is a semiconductor device that enables wireless
10 communications in cellphones and other products.

11 2. Defendant Qualcomm Incorporated ("Qualcomm") is one of the largest producers and
12 sellers of baseband processors, which are an integral part of any smartphone. Qualcomm also holds a
13 number of patents that read on smartphones and tablets operating on common networks.

14 3. Co-Conspirator Apple Incorporated ("Apple") designs, markets and sells iPad tablet
15 computers, which run Apple's iOS mobile operating system. Apple designs, markets and sells iPhone
16 smartphones which run Apple's iOS mobile operating system.

17 4. Qualcomm and Apple entered into a series of interconnected and interrelated
18 anticompetitive agreements, understandings and restraints of trade with the purpose and effect of
19 reducing competition, restricting supply and raising prices to supracompetitive levels of Apple devices,
20 including iPhones and iPads—prices paid by Plaintiff and the Plaintiff Class.

21 5. The components of a wireless network all use shared communication standards in order to
22 ensure compatibility. Companies in the wireless industry form standard setting organizations ("SSO")
23 that develop these standards. Participants in the SSOs own various patented technologies that are
24 included in the operation of the standard. These organizations, and the standards they promulgate, ensure
25 cellphones and other devices are able to operate on the same networks and communicate with each other.
26 Qualcomm has participated in standard setting processes, and holds the rights to numerous patents that
27 have been included in the standards for wireless technology adopted by SSOs.

6. Patents used in the standards set by SSOs are known as Standard Essential Patents (“SEPs”) because they must be licensed by companies that make products or services that use the standard—in short, firms must license SEPs in order to produce the products in these markets.

7. In order to have their patents and technology accepted by SSOs, patent holders such as Qualcomm agree that they will license their SEPs on fair, reasonable and non-discriminatory (“FRAND”) terms.

8. Qualcomm has not adhered to its FRAND promises. Instead, Qualcomm has taken advantage of the standard-setting process to acquire and maintain monopoly control of the modem chipset market—entrenching itself as the only supplier for baseband processor technology—and abused its dominance to the detriment of consumers and other purchasers.

9. Beginning at least as early as 2008, Qualcomm has used its market dominance to force cellphone manufacturers to accept one-sided royalty and license agreements, in order to secure a supply of processors. Qualcomm effectuated this scheme by, among other things: (1) refusing to license standard essential patents to all applicants on FRAND terms; (2) withholding Qualcomm’s baseband processors unless a customer accepts a license to standard essential patents on terms imposed by Qualcomm, including excessive and unlawful royalties that the customer must pay even when using competitors’ processors (Qualcomm’s “no license-no chips” policy); and (3) refusing to license its standard essential patents to competitors, in violation of its FRAND commitments.

10. In addition, Qualcomm has furthered its monopoly by entering into exclusive dealing arrangements, including with Apple, one of Qualcomm’s most important baseband processor customers.

11. Apple and Qualcomm conspired to circumvent Qualcomm’s FRAND obligations. Qualcomm’s FRAND obligations stem from the SSOs’ adoption of Qualcomm’s technology into SEPs, which made Qualcomm’s baseband processors valuable.

12. Qualcomm has excluded competitors, harmed competition, taxed its competitors’ baseband processor sales and reduced competitors’ ability to compete and incentive to innovate. This anticompetitive conduct has caused Plaintiff and Class Members to pay inflated prices for the iPhones and iPads they purchased from Apple.

13. Regulators around the world have condemned Qualcomm’s anticompetitive practices. On September 9, 2009, the Japanese Fair Trade Commission (“JFTC”) issued a cease and desist order against Qualcomm because of the violation of its FRAND obligations. On February 10, 2015, the Chinese National Development & Reform Commission (“NDRC”) found that Qualcomm had abused its monopoly power and restricted competition in violation of the country’s Anti-Monopoly Law, fining Qualcomm \$975 million. On December 21, 2016, the Korea Fair Trade Commission (“KFTC”) fined Qualcomm \$854 million (the largest fine in its history) for abuse of market dominance and anticompetitive conduct with respect to its licensing practices.

14. On January 17, 2017, the United States Federal Trade Commission (“FTC”) filed an enforcement action against Qualcomm in this Court, challenging Qualcomm’s unlawful maintenance of a monopoly in baseband processors, alleging Qualcomm has excluded competitors and harmed competition, resulting in the increased prices paid for cell phones and tablets. *Federal Trade Commission v. Qualcomm Inc.*, Case No. 17-cv-00220-LHK (N.D. Cal. Jan. 17, 2017). The FTC’s complaint includes alleged anticompetitive conduct by Qualcomm set forth in this Complaint, including Qualcomm’s refusal to license to competitors, Qualcomm’s refusal to sell chipsets without a license, and its imposition of exclusivity on Apple in exchange for a degree of royalty relief. These anticompetitive practices, according to the FTC, had the effect of marginalizing Qualcomm’s competitors and raising prices above competitive levels.

15. On February 10, 2015, the NDRC found that Qualcomm’s actions violated the abuse of dominance provisions of the China Anti-Monopoly Law. The NDRC imposed a fine of roughly eight percent of Qualcomm’s annual revenue within China for 2013—totaling \$975 million. The NDRC found Qualcomm was dominant in a number of SEP licensing and baseband processor chipset markets, including CDMA and LTE chipsets, and that this dominant position was protected by barriers to entry. The NDRC further found that Qualcomm acted anticompetitively by, among other things, forcing device manufacturers to take a license to Qualcomm’s SEPs on unreasonable terms and as a condition of purchasing Qualcomm’s chipsets.

16. Apple has also filed claims against Qualcomm for violating its FRAND obligations and engaging in anticompetitive conduct. Apple’s suit against Qualcomm offers an in depth look at

Qualcomm's exploitative practices, and exposes its agreements with Apple as pieces of the overall anticompetitive scheme that ultimately caused injury to Apple customers. *See Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Complaint, Dkt. No. 1 ("Compl.").

17. Qualcomm's countersuit against Apple reveals the bilateral nature of these agreements, and their effects on purchasers such as Plaintiff and the Plaintiff Class. *See Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Answer and Counterclaims, Dkt. No. 61 ("Answer").

II. JURISDICTION AND VENUE

18. This action arises under Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15(a) and 16, for Defendant's violations of Section 1 of the Sherman Act, 15 U.S.C. §§ 1 and 2. The Court has subject matter jurisdiction over this claim pursuant to 28 U.S.C. §§ 1331 and 1337.

19. Jurisdiction and venue are proper in this judicial district pursuant to Section 12 of the Clayton Act (15 U.S.C. § 22), and 28 U.S.C. § 1391(b), (c) and (d), because a substantial part of the events giving rise to Plaintiff's claims occurred in this District.

20. The Court has supplemental jurisdiction over the pendant claims brought under the law of California under 28 U.S.C. §§ 1332(d) and 1367. Each of Plaintiff's state law claims arises out of the same factual nucleus as Plaintiff's federal law claims.

III. PARTIES

A. Plaintiff

21. Plaintiff Lindsey Carr is a resident of California. Plaintiff directly purchased an iPhone from Apple during the Class Period.

B. Defendant

22. Defendant Qualcomm Incorporated is a Delaware corporation having its principal place of business at 5775 Morehouse Drive, San Diego, California 92121. Qualcomm is a global semiconductor company that designs and markets wireless networks in use around the world.

23. Qualcomm develops, designs, licenses and markets worldwide its digital communications products and services through its main business segments: Qualcomm CDMA Technologies ("QCT"), a wholly-owned subsidiary of Qualcomm which engages in equipment sales; and Qualcomm Technology

Licensing (“QTL”), a wholly-owned subsidiary of Qualcomm which grants licenses and provides rights to use portions of Qualcomm’s patent portfolio. QCT is operated by Qualcomm Technologies, Inc. (“QTI”), another wholly-owned subsidiary of Qualcomm.

C. Co-Conspirators

24. Co-conspirator Apple Incorporated is a California corporation having its headquarters and principal place of business within this Judicial District at 1 Infinite Loop, Cupertino, California 95014.

25. Apple is a party to the illegal agreements and a participant in the illegal anticompetitive restraints of trade as set forth in this Complaint. Apple conducted and effectuated the illegal agreements and anticompetitive restraints of trade alleged in this Complaint through its sub-contractors, suppliers and other agents.

IV. FACTUAL ALLEGATIONS

A. Broadband Processors

26. Baseband processors are semiconductor devices (also referred to as “chips,” “chipsets,” or “modems”) within wireless device handsets such as iPhones and iPads. Baseband processors allow wireless handsets to communicate with an operator’s wireless network by performing functions such as signal generation, modulation, and encoding.

27. Each wireless device purchased by Plaintiff and Class Members contains a baseband processor. Wireless communications depend on widely distributed wireless networks implementing standardized protocols. Network operators such as AT&T, Sprint, T-Mobile and Verizon make substantial investments to build networks that comply with these standardized protocols, and the baseband processor, or chipset, allows the wireless device to communicate and transmit voice and data across the operators’ wireless networks.

B. Standard Setting Organizations, Standard Essential Patents, and Fair, Reasonable, and Nondiscriminatory (“FRAND”) Terms

28. For a wireless network to operate, and for interoperability among wireless device components, regardless of manufacturer, carriers, mobile wireless device manufacturers and baseband processor chipset manufacturers must agree to follow a common set of standards. Standard Setting Organizations (“SSOs”), formed by manufacturers and network operators, promulgate these standards to

1 ensure cellphones and other devices are able to operate on the same networks and communicate with each
2 other.

3 29. Standards are critical in creating a common technology platform because they allow the
4 delivery of different network components by multiple suppliers, promote interoperability of products and
5 provide incentives to invest in infrastructure.

6 30. Baseband processors are a particularly important piece of these standards. To
7 communicate with an operator's wireless network, a wireless device must contain a baseband processor
8 that meets the wireless communications standards supported by that network.

9 31. In addition to setting standards, SSOs declare patents that are essential to the standards.
10 Because standards often require that devices utilize a specific technology, standard-compliant devices will
11 sometimes infringe on patents for technology that is incorporated into the standard. Such patents are
12 called Standard Essential Patents ("SEPs"). SEP holders receive licensing fees and royalties from the use
13 of their technology, and manufacturers of products containing the patented technology generally need to
14 license the SEP to be compliant with the applicable standard.

15 32. To address the economic effects of standardization that would serve to artificially inflate
16 royalties for SEP's, SSOs require participants who claim to own SEPs to disclose those patents publicly
17 and to promise to offer licenses for those patents to all companies implementing the standard either
18 royalty-free or on fair, reasonable, and nondiscriminatory ("FRAND") terms. This ensures that
19 competitors will not be excluded from the market and device manufacturers will not be subjected to
20 unreasonable terms.

21 33. If a patent holder does not make this promise, SSOs generally promulgate the standard
22 without using the patented technology. Holders of patents essential to technology incorporated into a
23 standard declare their patents as SEPs.

24 34. A system of uniform standards requires certain trade-offs by companies and consumers. As
25 an example, a company implementing standards in a product must use certain required technology, even
26 where viable alternatives, which may even be superior, exist. Following adoption of a standard,
27 participants invest into a standard, including making compliant parts, building cellular towers, and
28 designing handsets with particular capabilities. Because participants would face substantial costs if it

1 became necessary to switch to a different standard, and because a company cannot readily substitute
 2 alternative technologies in its products because those products will no longer work with any established
 3 network, participants become “locked in” to a standard. Standards therefore disrupt market forces and
 4 permit participants to obtain market power. As a result, standard-setting is accompanied by safeguards to
 5 prevent the abuse of monopoly power.

6 35. Without these safeguards, patent holders would be able to demand inflated or
 7 discriminatory royalties from product companies, who have no other choice than to use the technology,
 8 and would be able to insist on and demand and obtain royalty payments based not on the market value of
 9 the patents, but on the costs and the impossibility of switching away from standardized technology. This
 10 abusive conduct is referred to as “patent-holdup” and occurs “when the holder of a standard-essential
 11 patent . . . demands excessive royalties after companies are locked in to using a standard.” *Ericsson, Inc. v.*
 12 *D-Link Sys., Inc.*, 773 F.3d 1201, 1209 (Fed. Cir. 2014); *see also U.S. Dep’t of Justice & U.S. Dep’t of*
 13 *Commerce, Patent & Trademark Office, Policy Statement on Remedies for Standards-Essential Patents Subject to*
 14 *Voluntary F/RAND Commitments* (Jan. 8, 2013).¹ In such cases, higher royalties are passed on in the form
 15 of higher prices, injuring customers, including Plaintiff and Class Members.

16 36. FRAND obligations are therefore critical tools in preventing monopoly hold-up and
 17 ensuring that common standards remain accessible to all companies wishing to implement them. *See*
 18 *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 2111217, at *11 (W.D. Wash. Apr. 25, 2013).

19 37. When a SEP holder agrees to a FRAND requirement with an SSO, implementers of the
 20 standard and their customers are third-party beneficiaries of that requirement. However, FRAND
 21 obligations are not only a private contract between owners of technology and SSOs. Rather, they are a
 22 core foundation that addresses antitrust concerns in connection with industry collaboration on which
 23 standard-setting depends.

24 38. As the Third Circuit Court of Appeals has explained, FRAND commitments are
 25 important safeguards on monopoly power:

26 [A] standard, by definition, eliminates alternative technologies. When a
 27 patented technology is incorporated in a standard, adoption of the standard
 28 eliminates alternatives to the patented technology. Although a patent

¹ <https://www.justice.gov/sites/default/files/atr/legacy/2014/09/18/290994.pdf>

confers a lawful monopoly over the claimed invention, its value is limited when alternative technologies exist. That value becomes significantly enhanced, however, after the patent is incorporated in a standard. Firms may become locked in to a standard requiring the use of a competitor's patented technology. The patent holder's [intellectual property rights], if unconstrained, may permit it to demand supracompetitive royalties. It is in such circumstances that measures such as FRAND commitments become important safeguards against monopoly power.

Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 314 (3d Cir. 2007) (citations omitted).

C. The Cellular Industry, the Evolution of Cellular Standards and Qualcomm's Market Dominance and Abuse of Market Power

39. Distinct generations have occurred in wireless standards as technology advanced. The first-generation technology used analog technology which allowed only voice transmission and slow data transmission. This first-generation technology had significant capacity limitations, poor data transfer and lower security.

40. Second generation ("2G") cellular technology implemented two main technology paths or families of standards: (1) the "Global System for Mobile Communications" ("GSM") standard; and (2) the "Code Division Multiple Access" ("CDMA") standard. 2G technology provided improved voice and data capacity, supported additional functions such as text and multi-media messages, and offered increased privacy and security at lower prices. Most cellular telephones today use (at a minimum) 2G technology and standards, with GSM being the most widely used 2G technology. CDMA is a channel access method used by various radio communication technologies. CDMA provides multiple access, where several transmitters can send information simultaneously over a single communication channel. GSM is widely used in Europe and much of Asia, other than Japan and South Korea. GSM uses a variation of time division multiple access. Cellular telephone providers have operated under one or the other path. For example, Verizon and Sprint operate CDMA-path networks and AT&T and T-Mobile operate GSM-path networks. The CDMA and GSM technology paths are not interoperable; equipment and technologies designed to be compatible with one standard cannot be used for the other standard.

41. Qualcomm pioneered the development of CDMA technology. As a result, it controlled, and continues to control, the market for such technology, initially selling 90% of the chipsets that go into CDMA-compatible phones and continuing to control over 80% of the market. Additionally, Qualcomm

1 amassed many patents related to this standard. Consequently, virtually any company that makes CDMA
2 products—be they chipsets, phones, or infrastructure gear—has to obtain a license from Qualcomm.
3 Licensees pay a one-time fee for access to the patent portfolio and then royalties based on the final
4 product sold by the licensee (e.g., a smartphone). Nearly all wireless companies have signed patent
5 licenses with Qualcomm.

6 42. Third generation (“3G”) cellular technology included the “Universal Mobile
7 Telecommunications Service” (“UMTS”) standard, which used “Wideband Code Division Multiple
8 Access” (“WCDMA”) technology, allowing for further increased data speed and capacity. 2G and 3G
9 technologies continue to be simultaneously deployed in products, and devices with only
10 3G/UMTS/WCDMA technology are rare. Instead, 3G/UMTS/WCDMA products work in combination
11 with 2G technology.

12 43. Qualcomm’s royalty stream has continued in the technologies standardized in third
13 generation (“3G”) cellular technology. As with the prior generation of cellular technology, 3G evolved
14 into two competing standards—but this time, both major standards were based on CDMA. While an
15 improved version of CDMA technology was developed, the “Universal Mobile Telecommunications
16 Service” (“UMTS”) standard was also developed. UTMUS uses radio technology called WCDMA, which
17 stands for “Wideband Code Division Multiple Access.” WCDMA technology allows for even further
18 increased data speed and capacity.

19 44. LTE, sometimes referred to as a 4G cellular standard, is an upgrade and qualitative
20 improvement to the predecessor 3G/UTMS/WCDMA standard. This fourth-generation cellular
21 standard provides enhanced radio interface and all-IP network technology. The LTE standard has
22 continued to progress, with specified higher download speeds and advanced power-saving features,
23 among other functions.

24 45. The fourth generation of cellular technology (“4G”) brought the “LTE” standard (“long
25 term evolution of UMTS”). Almost all cellular-enabled devices that are sold today support LTE. LTE is
26 an “orthogonal frequency division multiple access” or “OFDMA” technology, used instead of the prior
27 CDMA-based technologies.

1 46. 3G and 4G technology are often used in tandem through “multimode” chipsets that are
2 compatible with both sets of standards.

3 47. Baseband processor chip sets implement one or more of these standards.

4 48. Each of these major cellular standards has carrier networks that employ them. Mobile
5 devices are configured for a particular carrier—such as AT&T or Verizon. Therefore chipsets used in a
6 particular wireless device must conform to the standard technology chosen for the carrier’s associated
7 network. Consequently, chipsets that comply with one standard may not be substituted for chipsets that
8 comply with other standards.

9 49. Additionally, these chipsets have different price and demand characteristics.

10 50. Consumers purchase cellphones that include these chipsets, which are configured to
11 operate using the standards of a particular network and not others. Once the cellphones or other devices
12 are purchased, consumers are then tied to that standard for use of that device.

13 51. One family of standards, used by U.S. carriers such as AT&T and T-Mobile, employs the
14 GSM standard for 2G communications and the complimentary UMTS standard for 3G communications.
15 A rival family of standards, used by U.S. carriers including Verizon and Sprint, employs the CDM
16 standard and related technologies (e.g., CDMA 2000). Both families have adopted the LTE standard,
17 while requiring backwards compatibility to their respective 2G and 3G standards and technologies.

18 52. For many years Qualcomm has had and continues to possess monopoly power in the sale of
19 baseband processor chipsets that implemented several of these various cellular standards and generations.

20 53. Qualcomm controlled, and continues to control, the market for CDMA technology,
21 initially selling 90% of the chipsets that go into CDMA-compatible phones and continuing to control over
22 80% of the market at present. Additionally, Qualcomm has control over many patents related to this
23 standard. As a result, virtually every company that makes CDMA products has to obtain a license from
24 Qualcomm. Licensees pay a one-time fee for access to the patent portfolio and then royalties based on the
25 final product sold. Almost all wireless companies have signed patent licenses with Qualcomm.

26 54. Qualcomm has monopoly power in the supply of chipsets that support CDMA, on which
27 devices sold by Verizon and Sprint continue to depend. Original equipment manufacturers (“OEMs”)
28 wishing to sell devices on CDMA networks must use CDMA chipsets, meaning that these OEMs depend

1 on access to Qualcomm’s chipsets. Qualcomm prices its CDMA chipsets without regard to competitive
2 alternatives, thus highlighting the absence of reasonable substitutes. Qualcomm has maintained for many
3 years a market share of over 80% of the CDMA chipset market, despite attempts by competitors,
4 including Intel, VIA Telecom, Texas Instruments and Eonex, to enter and gain a foothold in the market.
5 Qualcomm has used its monopoly power in CDMA chipsets to obtain and maintain anticompetitive
6 license and chipset supply terms from customers.

7 55. Qualcomm also has monopoly power in the market for premium LTE-enabled chipsets,
8 particularly when coupled with CDMA functionality. Premium LTE chipsets, typically used in flagship
9 smartphones, are sold by Qualcomm at different and higher prices. There are no reasonable substitutes
10 for these chipsets for device manufacturers seeking to sell flagship smartphones with advance features for
11 use on networks requiring LTE chipsets. In its 2016 Annual Report, for example, Qualcomm recognized
12 market segments for “premium-tier integrated circuit products” and “premium-tier smartphones.” For
13 many years Qualcomm has maintained a dominant share—80% or more—of premium LTE chipsets sold
14 in the relevant market. Qualcomm has used its monopoly power in premium LTE chipsets to obtain
15 anticompetitive license and chipset supply terms from customers.

16 56. The UMTS standard was adopted by various SSOs, including the European
17 Telecommunications Standard Institute (“ETSI”), the International Telecommunications Union
18 (“ITU”), and the Institute of Electrical and Electrical Engineers (“IEEE”), and other SSOs in the
19 United States and elsewhere following an evaluation of alternative available equipment and technologies.
20 Qualcomm supplies some of the essential technology that the ETSI included in the UMTS standard.
21 Qualcomm has intellectual property rights (“IPRs”), such as patents, in this technology. Among other
22 patents, Qualcomm owns the SEPs for the WCDMA standard.

23 57. CDMA-based technology has been adopted for all 3G wireless telephony and broadband
24 standards throughout the world. As a result, Qualcomm has received more than \$50 billion in licensing
25 revenues since 2000. Qualcomm charges a royalty on nearly every smartphone made, whether or not the
26 device uses Qualcomm’s chips.

27 58. Qualcomm’s dominance in all relevant product markets is protected by substantial barriers
28 to entry which include, but are not limited to: (a) the time and cost of product development and network

1 certification, including necessary economies of scale, scope and learning; (b) the intellectual property
2 rights of Qualcomm and others; (c) establishment of product reputation and compatibility; (d)
3 Qualcomm's exclusionary conduct set forth in this Complaint; and (e) obtaining the certification of
4 network operators for the use of baseband processor chipsets sold for use on carriers' networks, involving
5 significant expenditures of time and money.

6 59. The development of a chipset takes years of complex engineering and the investment of
7 hundreds, and perhaps billions of dollars. These barriers to entry increase with the processing power and
8 functionality of a particular chipset and become especially significant in the premium LTE chipset
9 market.

10 60. The fact that Qualcomm has declared thousands of patents as essential to the CDMA,
11 UMTS and LTE standards is also a barrier to entry. Navigating this array of patents increases the costs
12 and risks associated with new entry into the chipset market and constitute further barriers to entry.

13 61. Qualcomm's unfair and exclusionary conduct maintained and strengthened its monopoly
14 position in the relevant product market by depriving rival chipset manufacturers of necessary economies
15 of scale, scope, and essential experience.

16 62. In 2006, there were multiple vendors of baseband chipsets, including Broadcom, Ericsson,
17 Renesas, and Texas Instruments. Today, Intel is Qualcomm's only competitor in the market for premium
18 LTE chipsets. Qualcomm has no competition in the market for premium LTE chipsets with CDMA
19 functionality.

20 63. SSOs, including ETSI, require a commitment from vendors whose technologies are
21 included in the CDMA and other CDMA-based standards to license their technologies on FRAND
22 terms.

23 64. For example, Qualcomm is a member of ETSI, an SSO based in Sofia Antipolis, France,
24 which includes over 800 members from countries in five continents. ETSI promulgates globally accepted
25 standards for the telecommunications industry. ETSI, for example, created, or helped to establish
26 numerous telecommunication standards, including the 2G/GSM, 3G/UMTS, and 4G/LTE cellular
27 communications standards.
28

65. Like other SSOs, ETSI requires participants to commit to abide by its Intellectual Property Rights (“IPR”) Policy, which details the rights and obligations of its members.

66. The IPR Policy requires that SEP owners such as Qualcomm submit a written commitment that they will grant irrevocable licenses on FRAND terms. If no FRAND commitment is made, the IPR Policy provides for ETSI to explore alternative technologies for the standards.

67. Qualcomm has submitted IPR undertakings to ETSI, including stating that Qualcomm is “prepared to grant irrevocable licenses under this/these IPR’s on terms and conditions which are in accordance with Claus 6.1 of the ETSI IPR policy.”²

68. Qualcomm is therefore contractually obligated to grant licenses on FRAND terms to its patents to manufacturers of products that conform to ETSI standards with the baseband processor chipsets they use, as well as to third-party suppliers of baseband processor chipsets. Qualcomm also made similar promises to other SSOs.

69. Qualcomm has abused its power over SEPs and the chipset supply to increase and maintain its dominance in these markets and charge excessive royalties. As discussed below, Qualcomm’s manipulation of its dominant market position and its anticompetitive practices are confirmed by multiple investigations of its conduct by international competition agencies.

70. Qualcomm holds an extensive patent portfolio that applies to LTE technologies, including OFDMA, under which it has sold licenses to a multitude of major telecommunications companies, including giants such as LG and Samsung. Additionally, many of the 4G-based cellular devices still implement CDMA technology to be backwards-compatible. Qualcomm exclusively supplies the multimode CDMA-LTE chipsets that are backward compatible with CDMA while also utilizing the newer LTE technology.

71. Qualcomm has been able to use its leverage over CDMA to gain a greater share of the LTE-chipset market.

72. Qualcomm has had a dominant market share of both LTD and CDMA chipsets. Qualcomm has been able to use its monopoly power over the supply of these chipsets to force device

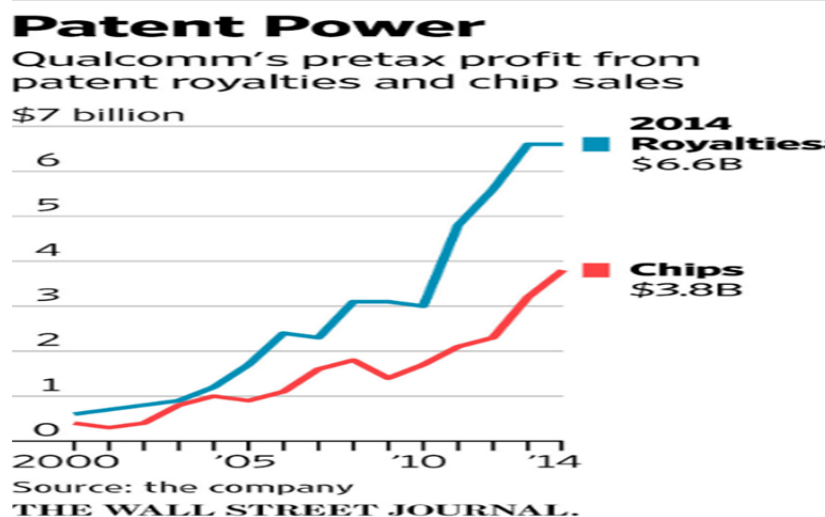
² ETSI Rules of Procedure, Appx. A, http://www.etsi.org/website/documents/legal/etsi_ipr-policy.pdf

manufacturers into anticompetitive license agreements. As one commentator noted: “Qualcomm’s status as both a chipset and IP vendor provides them with unparalleled leverage to collect licensing fees at a lower cost, simply by denying physical delivery of the chipsets until all fees are paid.”³

73. Qualcomm also holds a dominant position in the SEP licensing market for its intellectual property relating to modem chipsets. Qualcomm has declared thousands of patents as essential to CDMA, UMTS (WCDMA), and LTE standards. Qualcomm thus controls the licensing market for SEPs for these technologies, as manufacturers could not produce 3G and 4G devices without infringing on these patents. Qualcomm uses its SEPs to require OEMs and others to license its entire patent portfolio, which includes bundling in non-SEPs as well. Further, there is no requirement that non-SEPs be licensed on FRAND terms.

74. By putting both SEPs and non-SEPs into one license, Qualcomm attempts to avoid its FRAND requirements, and instead charge exorbitant royalties to licensees that have no choice other than to accept the packaged patent licenses.

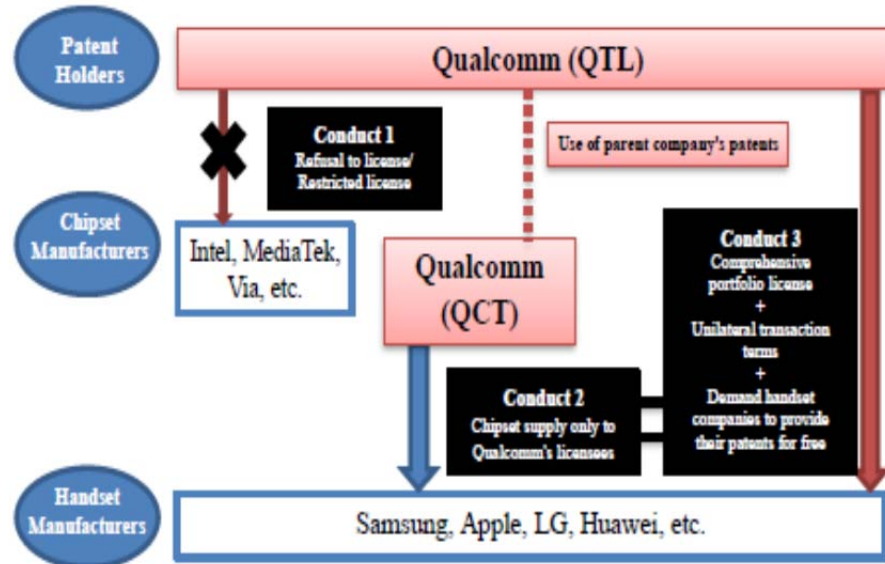
75. Qualcomm’s licensing division brings in the vast majority of its profits—nearly double the profits from actual sales of chips—as illustrated in the graph below. As such, it is critical for Qualcomm to maintain its anticompetitive and inflated licensing terms.



³ Richard A. Taddonio, *Long -Qualcomm (NASDAQ: QCOM) - \$68.42*, Columbia Business School 2015, https://www8.gsb.columbia.edu/valueinvesting/sites/valueinvesting/files/Taddonio_Richard-QCOM_0.pdf

76. Qualcomm has structured its business to maintain its market power. In 2007, Qualcomm claimed publicly that any manufacturer using CDMA and UMTS/WCDMA technology “ha[s] to take out a license from Qualcomm” and that Qualcomm had been “pretty consistent in that model.”⁴

77. The KFTC illustrated Qualcomm’s conduct as follows:⁵



78. Qualcomm’s has protected and maintained its market power by not licensing SEPs to competing chipset makers while, at the same time, insisting on licensing from cellular device manufacturers.

79. Additionally, Qualcomm’s conduct creates an incentive for OEMs and other mobile device suppliers to agree to exclusive or near-exclusive deals with Qualcomm on the purchase of chipsets, since OEMs cannot purchase chipsets from Qualcomm’s competitors without also paying royalties to Qualcomm. As the FTC noted in its recent complaint against Qualcomm, and described in more detail below, since 2007, Apple has entered into agreements to deal exclusively with Qualcomm in exchange for partial relief from Qualcomm’s standard royalties. *Federal Trade Commission v. Qualcomm Inc.*, Case No. 17-cv-00220 (N.D. Cal. Jan. 17, 2017), Compl. ¶¶ 116-130.

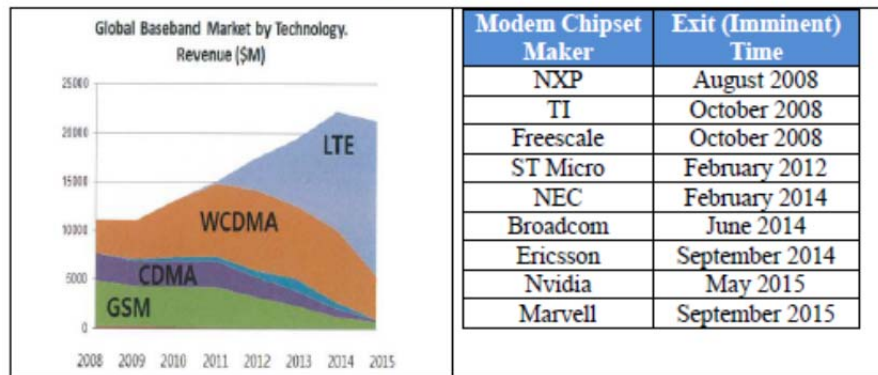
⁴ Qualcomm, Inc. at Jefferies Technology Conference (Oct. 2, 2007), at 5.

⁵ See KFTC Issued Press Release Dated December 28, 2016 – Unofficial English Translation, <https://www.qualcomm.com/documents/kftc-issued-press-release-dated-december-28-2016-unofficial-english-translation>

80. These exclusive supply arrangements, born from Qualcomm's prohibitive royalty terms, effectively deny other baseband processor suppliers the opportunity to compete effectively in the market.

81. As the KFTC explained, Qualcomm's licensing practices have prevented any significant competitor from entering the market and instead have caused many existing competitors to exit it, despite the market doubling in size since 2008:⁶

<Market Growth Trend in the Modem Chipset Market and Market Exit by Major Chipset Companies>



82. Qualcomm's royalty rates are significantly higher than others in the industry, in part because of how Qualcomm calculates these rates. Qualcomm's royalties are generally based upon a percentage of the wholesale selling price of complete licensed products, net of certain permissible deductions.

83. Using the entire value of an end product is not a reasonable basis for calculating these royalties. In fact, the IEEE and its Standards Association's licensing policy states that a reasonable royalty should be the value attributable to a SEP, excluding the value of that SEP's inclusion in an IEEE standard, and that a factor to consider when determining the reasonable rate is the value of the relevant functionality of the smallest salable compliant implementation that practices the essential patent claim.

84. Due to its market power, Qualcomm forces its licensees to pay these anticompetitive rates based on the price of the final end product, which results in a royalty that bears no relation to the actual value attributable to its technologies and intellectual property.

⁶ See *supra*, note 5.

85. As a further example of the anticompetitive nature of these royalties, because Qualcomm bases the royalty based on the product's final selling price, Qualcomm charges manufacturers of higher-value smartphones substantially more for a license than it charges manufacturers of basic cellphones—even though the wireless communications functionality in the two products is similar or identical. Qualcomm's practice is inconsistent with its FRAND promise because Qualcomm cannot discriminate between licensees on the basis of their position in the market.

86. As Apple alleges in its lawsuit challenging Qualcomm's anticompetitive practices, filed January 20, 2017, Apple sells high-end products with a selling price between \$399 for a 16GB iPhone SE and \$969 for a 256GB iPhone 7 Plus, while Walmart sells an unlocked 16GB Kyocera 4G LTE smartphone for less than \$100. *See Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Compl. ¶ 145. Qualcomm charges a far higher royalty payment for the use of its SEPs in the more expensive Apple phones, despite the fact that the contribution of wireless capability to both phones is similar. As Apple further alleges, its royalty payment to Qualcomm for Apple's 16BG iPhone 6 SE is about four to nine times more than Kyocera's royalty for its smartphone. *Id.*

87. This significant difference in treatment is inconsistent with the fundamental non-discriminatory premise of FRAND obligations.

88. Qualcomm's excessive royalties based on the selling price of the device ignores precedent that forbids basing a royalty on the entire device unless the patent involved drives demand for the whole device. Instead, the law requires that patent holders must base royalties, at most, on the smallest saleable patent-practicing unit. *See, e.g., LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 67 (Fed. Cir. 2012) (noting that "it is generally required that royalties be based not on the entire product, but instead on the 'smallest saleable patent-practicing unit'"); *see also Golden Bridge Tech. v. Apple Inc.*, No. 5:12-cv-04882-PSG, 2014 WL 219501, at *6 (N.D. Cal. May 18, 2014) ("[I]n any case involving multi-component products, patentees may not calculate damages based on sales of the entire product, as opposed to the smallest saleable patent-practicing unit ['SSPPU'], without showing that the demand for the entire product is attributable to the patented feature."); *Innovatio IP Ventures*, 2013 WL 5593609, at *13 (applying the smallest saleable unit requirement to FRAND royalties).

89. The smallest saleable unit for a cellular SEP license should be no greater than the baseband processor chipset, where the inventive aspects of the patented cellular-standard technology is implemented or substantially practiced. *See GPNE Corp. v. Apple, Inc.*, No. 12-CV-02885-LHK, 2014 WL 1494247, at *13 (N.D. Cal. Apr. 16, 2014) (holding “as a matter of law that in this case, the baseband processor is the proper smallest saleable patent-practicing unit”).

90. Qualcomm’s royalty rates for its SEPs exceed a reasonable royalty under FRAND.

91. As noted above, Qualcomm has excluded competitors and harmed competition by, among other things, withholding its baseband processors unless a customer accepts a license to SEPs on terms dictated by Qualcomm, including exorbitant royalties that the customer must pay when using competitors’ processors. This policy is sometimes referred to as “no license – no chips.”

92. Qualcomm’s “no license – no chips” policy significantly increases costs of challenging Qualcomm’s preferred license terms. This puts Qualcomm’s licensees in a substantially different, weaker position than they would be in a typical patent license negotiation. The result is that Qualcomm’s licensees have accepted elevated royalties and other license terms than they might otherwise.

93. Qualcomm’s refusal to license its competitors further enhances its market power and bolsters its abilities to maintain unreasonably high royalties and other unreasonable license terms. Qualcomm’s competitors, unlike Qualcomm licensees, do not depend on Qualcomm for baseband processor supply. As a result, they would be better positioned than customers to negotiate licenses on FRAND terms.

94. But, by using its monopoly power to obtain unreasonably high royalties that apply to baseband processors supplied by its competitors, Qualcomm in effect collects a “tax” on cellphone manufacturers and other purchasers if use non-Qualcomm processors. This tax weakens Qualcomm’s competitors by reducing demand for their processors and maintains Qualcomm’s monopoly power.

D. Qualcomm’s Anticompetitive Conduct Has Directly Harmed Direct Purchasers of Apple iPhones and iPads

95. Qualcomm’s anticompetitive conduct, including the abuse of its monopoly power to force device manufacturers and other licensees to pay unreasonably high royalties, has directly harmed Plaintiff

and Class Members in that they have been compelled to pay higher and supracompetitive prices for iPhones and iPads than they would have absent Qualcomm's unlawful conduct.

96. Qualcomm's patent rights are closely intertwined with the cellular devices themselves. The effect of the anticompetitive conduct alleged in this Complaint is targeted at the cellular device as a whole, not its components separately, as reflected in Qualcomm's royalties that are based on the price of the cellular device as a whole.

97. If Qualcomm were to charge a fair and reasonable royalty and comply with its FRAND obligations, customers, including Plaintiff and Class Members, would benefit from lower prices for iPhones and iPads.

V. APPLE AND QUALCOMM'S ANTICOMPETITIVE AGREEMENTS, UNDERSTANDINGS AND RESTRAINTS OF TRADE

98. As stated above, Apple is one of Qualcomm's most important customers for baseband processor chipsets. In order to mitigate Qualcomm's huge royalty and licensing fees, Apple entered into a series of anticompetitive agreements, understandings and restraints of trade with Qualcomm with the purpose and effect of raising prices to supracompetitive levels of Apple devices, including iPhones and iPads, paid by Plaintiff and the Plaintiff Class.

99. Like many OEMs, Apple sought to ameliorate Qualcomm's strict licensing requirements.

100. Like other OEMs, Apple's leverage in negotiations with Qualcomm has been constrained by Apple's need for access to a supply of Qualcomm's CDMA and premium LTE baseband processors and other anticompetitive aspects of Qualcomm's market power.

101. Unlike other OEMs, Apple employs contract manufacturers ("CMs") to manufacture and assemble devices Apple subsequently sells at retail to Plaintiff and the members of the Plaintiff Class. Under a number of interrelated agreements organized by Apple and Qualcomm, CMs acquire Qualcomm chipsets for use in manufacturing and assembling devices for Apple. Apple does not know the license fees Qualcomm charges the CMs in the first instance in the manufacturing process. Apple's agreements with Qualcomm, when taken together, require Apple to pay twice. First, Apple pays for the cost of the chip set, which incorporates the license fee the CMs pay to Qualcomm. Then, Apple pays Qualcomm a royalty for in addition to the cost of the chipsets. These fees and royalties are not FRAND based.

1 102. Under these interrelated agreements, the parties agree that Apple pays a second royalty on
2 a per-unit basis calculated as a percentage of the wholesale price Apple charges customers for its devices
3 to CMs, and the CMs pay the royalty to Qualcomm. Further, the agreements between Apple and
4 Qualcomm provide that Qualcomm will pay Apple certain additional sums (characterized as “rebates”)
5 which Apple can use for any purpose and which are not passed on to customers or used to reduce the
6 selling price Apple charges customers for its devices. Apple and Qualcomm conceal the amount of such
7 rebates. As Qualcomm and Apple know, the purpose and effect of these interrelated agreements is to
8 increase prices for paid for devices containing Qualcomm chipsets. Qualcomm is able to demand and
9 obtain such contractual provisions by virtue of its market power.

10 103. By entering into these agreements, Qualcomm and Apple have entered into
11 anticompetitive agreements and engaged in an anticompetitive course of conduct in violation of the
12 antitrust law with respect to the manufacture and sale of Apple iPhones and iPad devices. Apple has
13 charged its customers supracompetitive prices for these devices. But for the illegal restraint of trade,
14 Apple would have charged a lower competitive price to its customers for its devices.

15 104. Despite these differences, Apple, like other OEMs, regards Qualcomm’s license terms,
16 including the effective royalties charged by Qualcomm under its licenses with Apple’s contract
17 manufacturers, as inconsistent with Qualcomm’s FRAND commitments.

18 105. Apple has negotiated with Qualcomm in an effort to reduce the royalty Apple pays
19 Qualcomm through its contract manufacturers. As a result of these negotiations, Apple entered into
20 agreements with Qualcomm in 2007, 2011, and 2013 regarding Qualcomm chipsets.

21 106. Under a 2007 agreement, Qualcomm agreed to rebate to Apple royalties that Qualcomm
22 received from Apple’s contract manufacturers in excess of a specified per-handset cap. Qualcomm’s
23 payment obligations were conditioned upon, among other things, Apple’s anticompetitive agreement not
24 to sell or license a hand set implementing the WiMax standard, a prospective fourth-generation cellular
25 standard championed by Intel and opposed by Qualcomm.

26 107. Qualcomm and Apple entered into other anticompetitive agreements in 2011 and 2013.
27 Under these agreements, Qualcomm agreed to pay Apple large lump sum payments. Qualcomm
28

1 conditioned these payments on Apple's agreement to use only Qualcomm baseband processors in new
2 iPhone and iPad models.

3 108. Under Qualcomm's 2011 agreement with Apple, Qualcomm also agreed to pay Apple
4 substantial sums from 2011 through 2016, explicitly conditioned on Apple's agreement to use Qualcomm
5 baseband processors exclusively in all new iPhone and iPad models. The 2011 agreement provided, among
6 other things, that if, during this period, Apple launched a new handset with a non-Qualcomm baseband
7 processor, it would forfeit all such payments in the future and, depending on when a handset launched,
8 would be required to refund past payments.

9 109. Qualcomm's 2013 agreements with Apple modified and extended the exclusivity
10 agreement provided in the 2011 agreement. Under the 2013 agreements, Qualcomm agreed to pay
11 ("rebate") to Apple royalties that Qualcomm collected from Apple CMs in excess of certain per-handset
12 caps. Qualcomm's obligation to make these rebate payments was subject to, among other terms, a new
13 anticompetitive condition—that Apple neither initiate nor induce others to initiate litigation claiming that
14 Qualcomm had failed to offer a license on FRAND terms. Qualcomm also agreed to pay Apple substantial
15 sums in 2013, 2014, 2015, and 2016, explicitly conditioned on Apple sourcing baseband processors for
16 new iPad and iPhone models exclusively from Qualcomm. The 2013 agreements further provided that, if,
17 during this period, Apple launched a new handset with a non-Qualcomm baseband processor, Apple
18 would forfeit all future incentive payments and, depending on when a handset launched, could be required
19 to refund past payments.

20 110. Taken together, Qualcomm's 2011 and 2013 agreements with Apple provided for billions of
21 dollars in conditional payments ("rebates") from Qualcomm to Apple for baseband processor sales from
22 2011 to 2016. These conditional rebates effectively penalized Apple's use of any baseband processors
23 which may have been supplied by Qualcomm's competitors, thus foreclosing and limiting competition.

24 111. Qualcomm's 2011 and 2013 agreements with Apple were, and were intended by Qualcomm
25 to be, de facto exclusive agreements that were as effective and anticompetitive as express exclusive
26 agreements. The purpose and effect of these agreements was to foreclose Qualcomm's competitors from
27 successfully competing for baseband processor business for devices to be manufactured and sold by
28 Apple.

112. Apple had at all relevant times had the economic incentive and engineering capability to develop and work with other suppliers of baseband processors. But for the anticompetitive agreements alleged, Apple would have done so.

113. As a result of the anticompetitive agreements, Apple would have been required to pay large sums to Qualcomm if Apple had sourced baseband processors from rival competitor baseband suppliers, thus disincentivizing and foreclosing Apple from using alternative suppliers because of the exclusivity features of these agreements.

114. Although a price-cost test is not required to assess the competitive effects of Qualcomm's agreements with Apple, the penalties under these agreements are sufficiently large that, if they were attributed as discounts to the price of Qualcomm baseband processors reasonably contestable by a Qualcomm competitor, the resulting price of Qualcomm processors would be below Qualcomm's cost.

115. As a result of the exclusivity features of its agreements with Qualcomm, Apple sourced baseband processors exclusively from Qualcomm for all new iPad and iPhone products that it launched over the five-year period from October 2011 until September 2016.

116. Qualcomm's exclusive agreement with Apple excluded competition from other baseband processor suppliers and harmed competition.

117. Apple is a particularly important OEM from the perspective of a nascent baseband processor supplier and confers benefits on a nascent supplier that make the supplier a stronger contender for other OEMs' business.

118. Apple sells large volumes of premium handsets that require premium LTE baseband processors. These processors ordinarily command higher prices and margins than lower-tier baseband processors. Supplying Apple helps a nascent supplier to achieve business scale, thus permitting research-and-development flexibility, among other things.

119. A nascent supplier learns directly from engagement with Apple's engineering teams and this engagement improves the supplier's baseband processor offerings.

120. A nascent supplier achieves technical validation by demonstrating its ability to meet Apple's demanding technical requirements.

121. A nascent supplier engaged by Apple can field-test its processors through global launches that require real-world work with network operators and infrastructure vendors.

122. A nascent supplier obtains a reputational halo effect from selling to Apple. This reputational boost may help a supplier win sales at other OEMs.

123. Qualcomm's exclusive agreements with Apple prevented Qualcomm's competitors from attaining these benefits during the term of the agreements. These agreements also foreclosed a substantial share of the market for premium LTE baseband processors. The agreements significantly impeded the development of other baseband processor suppliers into effective competitors to Qualcomm.

124. In January 2017, Apple filed suit against Qualcomm alleging Qualcomm violated its FRAND obligations and engaged in anticompetitive conduct.

125. In its complaint, Apple portrays itself as a reluctant, or unwilling, party to the Business Cooperation and Patent Agreement ("BCPA"), the most recent agreement between the companies, which included the exclusive license term. But Apple's allegations reveal that it benefitted substantially from the agreement, in the form of charging higher prices and that it knowingly and intentionally entered such agreements with the purpose and effect of raising prices of Apple products paid by Apple customers.

126. On April 10, 2017, Qualcomm filed an answer and counterclaims against Apple based on Apple's alleged violations of the BCPA. *See Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Answer. In its counterclaims, Qualcomm states: "In an effort to reduce its supply costs, Apple—the wealthiest company in the world—repeatedly has cast itself as an antitrust 'victim.' But the facts refute any such notion. In reality, these lawsuits are designed to enhance Apple's already formidable negotiating leverage." *Id.* ¶ 23.

127. Qualcomm aptly describes on its 2013 agreements with Apple as the Business Cooperation and Patent Agreement ("BCPA"). The purpose and effect of this business cooperation was clear: Qualcomm would make substantial payments to Apple for a variety of highly valuable consideration, but only so long as Apple satisfied its own obligations under the Agreement.

128. Qualcomm's allegations confirm the bilateral nature of the agreement between the companies, and that Apple, as a party to this anticompetitive agreement, benefitted from its agreement with Qualcomm to the detriment of its customers.

129. Indeed, as Qualcomm alleges, Apple’s complaint “misrepresents the nature of the Cooperation Agreement,” by “stating that the ‘sole purpose’ of Qualcomm’s payments under the Agreement was ‘to reduce Apple’s royalty burden.’” *See Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Answer, ¶ 27. According to Qualcomm, that is not true: Each party to the Cooperation Agreement provided meaningful value to the other. In particular, Qualcomm’s payments under the Cooperation Agreement were in exchange for, among other things, promises from Apple that it (i) would cooperate with Qualcomm in the development and deployment of certain technologies, (ii) would not launch various patent attacks against Qualcomm or its customers, and (iii) would not actively induce or initiate litigation—including investigations by government agencies—against Qualcomm. These contractual provisions reflect Qualcomm’s attempt to limit Apple’s ability to abuse its leverage over Qualcomm. Although Apple now characterizes the Cooperation Agreement differently for litigation purposes, Qualcomm expected to receive significant value from Apple for the payments it agreed to make under the Cooperation Agreement. *Id.*

130. The ample details Apple and Qualcomm set forth in their pleadings evidence Qualcomm’s achievement and abuse of its market dominance and position as an SEP holder. Qualcomm used its SEP to demand anticompetitive licensing agreements from OEMs and extract supracompetitive royalties and other payments for its chipsets, in violation of its FRAND obligations. It further shows that the agreements between Apple and Qualcomm have anticompetitive impact, causing substantial consumer harm in the form of limited supply and higher prices. For example, Apple confirms that, but for the BCPA, Apple and consumers would have saved hundreds of millions of dollars. Specifically, Apple alleges:

a. But-for paragraph 2 of Section 7 of the BCPA, Qualcomm’s violation of its FRAND obligations and its abuse of monopoly power in the CDMA chipset market and the premium LTE chipset market would have been eliminated sooner, resulting in Apple and consumers paying lower prices of at least hundreds of millions of dollars. *Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Compl. ¶ 358.

b. But-for Qualcomm’s violation of its FRAND obligations, Qualcomm would have been forced to offer exhaustive patent licenses to its cellular SEPs on FRAND terms to Intel, Broadcom,

1 and others. An exhaustive patent license to Qualcomm’s cellular SEPs would have made these chipset
 2 suppliers more effective competitors to Qualcomm in the chipset market, leading to lower prices and
 3 enhanced innovation in the chipset market, to the benefit of Apple and ultimately of consumers. *Apple Inc.*
 4 *v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Compl. ¶ 353.

5 c. Similarly, implementers such as Apple generally have the greatest economic
 6 incentive to challenge the terms of Qualcomm’s SEP licensing. A successful FRAND challenge by Apple
 7 would result directly in a more competitive chipset market, and lower SEP royalties and chipset prices, to
 8 the benefit of Apple and consumers. *Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D.
 9 Cal. Jan. 20, 2017), Compl. ¶ 361.

10 131. That customers were harmed by the agreements between Apple and Qualcomm is
 11 confirmed by Apple’s other allegations, which demonstrate that the royalty charged by Qualcomm was
 12 tied to the purchase price of the iPhone and iPad.

13 132. Customers were also harmed when Qualcomm discriminated against iPhone and iPad
 14 purchasers by charging Apple more in royalties for these higher-priced products.

15 133. Apple provides the following example: Apple sells high-end products with a selling price
 16 between \$399 for a 16GB iPhone SE and \$969 for a 256GB iPhone 7 Plus, whereas Walmart sells an
 17 unlocked 16GB Kyocera 4G LTE smartphone for under \$100. [Apple, www.apple.com/iphone; Walmart,
 18 [https://www.walmart.com/ip/Kyocera-DuraForce-E6560-16GB-Unlocked-GSM-4G-LTE-Military-](https://www.walmart.com/ip/Kyocera-DuraForce-E6560-16GB-Unlocked-GSM-4G-LTE-Military-Grade-Smartphone-w-8MP-Camera-Black/117746885)
 19 [Grade-Smartphone-w-8MP-Camera-Black/117746885](https://www.walmart.com/ip/Kyocera-DuraForce-E6560-16GB-Unlocked-GSM-4G-LTE-Military-Grade-Smartphone-w-8MP-Camera-Black/117746885).] The two phones have different costs, different
 20 appeal, and different prices, for reasons almost entirely unrelated to the wireless voice and data capability
 21 contributed by Qualcomm’s purportedly standard essential patents. Yet Qualcomm insists on a far-greater
 22 royalty payment for the use of its SEPs in the more expensive phone, even though the contribution of
 23 wireless capability to both phones is similar. As a result, Apple’s royalty payment for the 16GB iPhone 6
 24 SE is about four to nine times more than Kyocera’s royalty for its smartphone. This disparity contravenes
 25 the fundamental premise of, among others, the “non-discriminatory” aspect of FRAND obligations—
 26 allowing competitors who implement the standards access to the SEPs on a level playing field, with no
 27 one competitor paying more for the same technology than others. *See Apple Inc. v. Qualcomm Inc.*, Case
 28 No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Compl. ¶ 145.

134. Further, as Apple admits, the impropriety of Qualcomm's proposed royalty base becomes even more apparent when one considers that Apple sells multiple versions of an iPhone or iPad product, each having a different price but including identical, or similar, baseband processor chipsets (and therefore containing the same functionality that allegedly infringes SEPs. For example, Apple sold its iPhone 7 with different memory configurations resulting in a difference of about \$200 in the adjusted net selling price as between an iPhone 7 with 32GB of memory and one with 256GB of memory. Even though both devices provide the same standardized cellular functionality, Qualcomm effectively demanded that Apple pay a cellular SEP royalty on the 256GB iPhone 7 that is more than the royalty paid on the phone with 32GB of memory. As a result, Apple pays an additional royalty based on the presence of additional memory, which is not related to Qualcomm's cellular SEP patents or Qualcomm's products.

135. Apple's royalty payment should not fluctuate based on purchasing decisions by downstream customers, who desire features, such as more memory, that are not covered by Qualcomm's SEP patents. *See Apple Inc. v. Qualcomm Inc.*, Case No. 17-cv-00108-GPC-MDD (S.D. Cal. Jan. 20, 2017), Compl. ¶ 146.

136. Apple's own statements, therefore, confirm that Apple and Qualcomm's agreements caused purchasers to pay higher prices for Apple iPhones and iPads.

VI. MARKET DEFINITION

137. The relevant geographic market for purposes of this action is the United States and its territories.

138. For purposes of Section 1 of the Sherman Act, the relevant product markets are cellular devices such as Apple's iPhone and iPad products. For purposes of Section 2 of the Sherman Act, the relevant product markets are: (1) the market for CDMA and premium LTE modem chipsets ("Modem Chipset Market"), also known as baseband processors, which allow cellular devices to communicate with carrier networks and (2) intellectual property rights associated with SEPs ("SEP Licensing Market"). These two products are referred to collectively as the "Cellular Device Components."

139. Qualcomm directly participates in the market for the sale of iPhones and iPads to Plaintiff and Class Members by encumbering cellular devices through its licenses (and related excessive royalties).

Specifically, Qualcomm's royalty payments are calculated as a percentage of the wholesale price of the cellular devices, which in turn increases the retail price of those devices.

140. Plaintiff directly purchased iPhones or iPads from Apple. Similarly, Plaintiff purchased the Cellular Device Components when she bought these devices. Plaintiff's injuries are inextricably intertwined with Qualcomm's anticompetitive conduct with respect to chipset modems and abuse of patent rights because it has increased the cost to her of buying cellular devices by, among other things, (a) eliminating competition, allowing Qualcomm to charge supracompetitive prices for its chipsets and licenses, and (b) forcing device manufacturers to agree to unfair licensing terms, including excessive royalties.

VII. CLASS ACTION ALLEGATIONS

141. Plaintiff brings this action under Federal Rule of Civil Procedure 23 on behalf of the following class:

All persons or entities in the United States who purchased Apple iPhones, iPads or other Apple products containing Qualcomm baseband processors directly from Apple from January 25, 2013 through the present. Excluded from the proposed Class are Qualcomm's officers, directors, legal representatives, successors, and assigns; any entity in which Qualcomm has a controlling interest; and judicial officers to whom this case is assigned and their immediate family members.

Plaintiff reserves the ability to modify the definition of the proposed Class before the Court determines whether class certification is warranted.

142. The requirements of Federal Rule of Civil Procedure 23(a), (b)(1), (b)(2), and (b)(3) are satisfied.

143. The Class consists of thousands of purchasers of Apple products, making joinder of each Class member impracticable. The Class is presently ascertainable by reference to objective criteria.

144. Common questions of law and fact exist for each of the causes of action and predominate over questions affecting only individual Class members. Questions common to the Class include:

a. Whether Qualcomm possessed, acquired, and/or maintained monopoly power over the Cellular Device Components in the United States during the Class Period;

b. Whether Qualcomm possessed, acquired, and/or maintained monopoly power in the SEP Licensing Market in the United States during the Class Period;

1 c. Whether Qualcomm tied the sale of its CDMA- and premium LTE- based chipsets
2 to the purchase of license rights to its patent portfolio (including SEPs and non-SEPs);

3 d. Whether Qualcomm possessed, acquired, and/or maintained monopoly power in
4 the Modem Chipset Market in the United States during the Class Period;

5 e. Whether Qualcomm's agreements with Apple are unreasonable restraints of trade
6 in violation of Section 1 of the Sherman Act;

7 f. Whether Qualcomm unlawfully maintained its monopoly in violation of Section 2
8 of the Sherman Act;

9 g. Whether Qualcomm's conduct violated California's Cartwright Act, Cal. Bus. &
10 Prof. Code §§ 16700, *et seq.*;

11 h. Whether Qualcomm engaged in anticompetitive conduct in violation of
12 California's Unfair Competition.

13 145. Plaintiff's claims are typical of the claims of the Class. Plaintiff, like all Class members,
14 purchased iPhones and iPads directly from Apple.

15 146. Plaintiff will fairly and adequately protect the interests of the Class. Plaintiff's interests do
16 not conflict with the interests of Class members, and she has retained counsel experienced in prosecuting
17 class action and antitrust litigation.

18 147. A class action is superior to individual adjudications of this controversy. Litigation is not
19 economically feasible for individual Class members because the amount of monetary relief available to
20 individual plaintiffs is insufficient in the absence of the class action procedure. Separate litigation could
21 yield inconsistent or contradictory judgments, and increase the delay and expense to all parties and the
22 court system. A class action presents fewer management difficulties and provides the benefits of a single
23 adjudication, economy of scale, and comprehensive supervision by a single court.

24 148. Class certification also is appropriate under Rule 23(b)(1) or (b)(2) because:

25 a. the prosecution of separate actions by individual Class members would create a risk
26 of inconsistent or varying adjudications which would establish incompatible standards of conduct for
27 Qualcomm;
28

b. the prosecution of separate actions by individual Class members would create a risk of adjudication of their rights that, as a practical matter, would be dispositive of the interests of other Class members not parties to such adjudications or would substantially impair or impede other Class members' ability to protect their interests; and

c. Qualcomm has acted and refused to act on grounds that apply generally to the Class such that final injunctive relief or declaratory relief is warranted with respect to the Class as a whole.

VIII. CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF AGAINST DEFENDANT QUALCOMM

Violation of Section 1 of the Sherman Act

15 U.S.C. § 1

(On Behalf of the Nationwide Class of Direct Purchasers)

149. Plaintiff repeats and incorporates by reference each proceeding and succeeding paragraph as though fully set forth herein.

150. Beginning at least as early as January 25, 2013, Qualcomm and Apple entered into a continuing combination or conspiracy to unreasonably restrain trade and commerce in violation of Section 1 of the Sherman Act (15 U.S.C. § 1). This agreement had the cause and effect of limiting competition in the market for Cellular Device Components.

151. In particular, Qualcomm and Apple conspired to violate to Qualcomm's FRAND obligations, harming purchasers of iPhones and iPads during the Class Period, by entering into a series of agreements that limited Apple's ability to secure Cellular Device Components from Qualcomm competitors or challenge Qualcomm's licensing practices as not FRAND-compliant.

152. Additionally, as part of the same conspiracy, Qualcomm and Apple agreed to inflate the prices of iPhones and iPads in the form of fees and royalties that were inconsistent with Qualcomm's FRAND obligations.

153. The agreements also provided for Apple to receive valuable consideration in exchange for its participation in Qualcomm's scheme.

154. Plaintiff purchased iPhones and iPads directly from Apple.

155. As a result of Qualcomm and Apple's agreements, Plaintiff has paid inflated prices for iPhones and iPads.

156. There is no legitimate procompetitive justification for the agreements between Apple and Qualcomm. The agreements between Apple and Qualcomm inflated prices that Plaintiff paid for iPhones and iPads while conferring no corresponding benefit to purchasers, including consumers.

157. The anticompetitive effects of the agreements outweigh any potential procompetitive effects they may have.

SECOND CLAIM FOR RELIEF AGAINST DEFENDANT QUALCOMM

Violation of Section 2 of the Sherman Act

15 U.S.C. § 2

(On Behalf of the Nationwide Class of Direct Purchasers)

158. Plaintiff incorporates by reference each proceeding and succeeding paragraph as though fully set forth herein.

159. Qualcomm's conduct, as alleged this Complaint, constitutes unlawful monopolization of the market for Cellular Device Components, in violation of Section 2 of the Sherman Act (15 U.S.C. § 2).

160. Monopoly power is the ability to control prices and exclude competition in a given market. Because Qualcomm can profitably raise prices without causing competing firms to expand output and drive down prices, and its anticompetitive conduct has excluded competition, Qualcomm has monopoly power.

161. Qualcomm has acquired and maintained monopoly power in the Modem Chipset Market. Qualcomm controls the CDMA chipset supply, historically controlling over 90% of the CDMA modem chipset market and at the lowest point still controlling 83% of this market. Qualcomm also controls the Modem Chipset Market, controlling at relevant times up to 90% of the market, and today over 60% of the market. Qualcomm still exclusively supplies multimode CDMA-LTE chipsets that are backward compatible with CDMA.

162. Substantial barriers to entry, including those identified above, exist. CDMA- and premium LTE- based technology is not substitutable for other technologies. Qualcomm controls the patents or SEPs underlying CDMA technology, and Qualcomm has maintained this monopoly by, among other things, refusing to license to competitors and requiring purchasers of its chipsets to agree to its licenses for its patent portfolio.

1 163. Qualcomm’s monopoly power is demonstrated by Qualcomm’s ability to repeatedly force
2 device manufacturers to accept unreasonable license agreements and related terms, including excessively
3 high royalty terms.

4 164. Qualcomm also has monopoly power over the SEP Licensing Market. SSOs have selected
5 standards based on technology for which Qualcomm owns multiple patents, based on the condition that
6 Qualcomm would fulfill its FRAND obligations. Qualcomm holds and has held throughout the relevant
7 period virtually all of the SEPS for CDMA standard-based technologies, which underlie nearly all 3G
8 devices and 4G-LTE devices which are 3G-compatible. As these patents are “essential” to the CDMA
9 standard, other patents and patented technology cannot replace or serve as an alternative for Qualcomm’s
10 patents. Qualcomm’s market power is further demonstrated by Qualcomm’s ability force OEMs to agree
11 to unfair and unreasonable license agreements and terms, including excessive royalties. Because OEMs
12 need to use Qualcomm’s technology for their devices to communicate with the major carrier networks,
13 they have no choice but to agree to Qualcomm’s unfair and unreasonable licensing terms.

14 165. As previously alleged, Qualcomm has acquired and maintained its monopoly power in the
15 Cellular Device Components described above through anticompetitive, exclusionary acts, including,
16 among other things, excluding competitors and forcing OEMs to agree to non-FRAND terms.

17 166. Qualcomm holds monopoly power over the Cellular Device Components because it can
18 encumber iPhones and iPads with a royalty it imposes without other firms competing to drive down these
19 prices. Specifically, Qualcomm’s control over the Cellular Device Components has allowed it to force
20 license agreements on its competitors and OEMs, and its license agreements allow Qualcomm to charge a
21 licensing fee unfairly based on the wholesale price of the entire completed device. In other words, each
22 iPhone or iPad sold with or based on Qualcomm technology is also encumbered by Qualcomm’s excessive
23 royalties, which in turn increase the cost of the device for consumers, including Plaintiff and Class
24 Members.

25 167. There is no procompetitive justification for Qualcomm’s anticompetitive conduct.
26 Qualcomm induced SSOs to use its technology and related patents in setting their standards on the
27 promise that it would adhere to FRAND obligations. But Qualcomm has not met its FRAND obligations,
28 and instead, has abused its monopoly power in the Cellular Device Components to force OEMs into

licenses with unfair and unreasonable terms, including, but not limited to, its excessively high royalty rates based on the selling price of the completed device rather than the value of Qualcomm's contribution to that device.

168. Qualcomm's acts have harmed the development of cellular technologies by forcing out competitors, thus reducing innovation and competitive pricing.

169. Plaintiff and members of the Class were harmed as a direct result of Qualcomm's unlawful conduct as set forth in this Complaint. Through its anticompetitive conduct, Qualcomm harmed innovation and competition, increasing the purchase price of Plaintiff's iPhones and iPads.

THIRD CLAIM FOR RELIEF AGAINST DEFENDANT QUALCOMM

Violation of California Cartwright Act Cal. Bus. & Prof. Code § 16700, *et seq.* (On Behalf of the Nationwide Class)

170. Plaintiff repeats and incorporates by reference each proceeding and succeeding paragraph as though fully set forth herein.

171. During the Class Period, Qualcomm engaged in the monopolistic and anticompetitive conduct set forth in this Complaint in unreasonable restraint of trade and commerce in violation of the Cartwright Act, California Business and Professions Code sections 16700, *et seq.*

172. As alleged above, Qualcomm acquired and maintained a monopoly in the Modem Chipset Market.

173. Qualcomm also entered into anticompetitive agreements with Apple. These agreements had the cause and effect of limiting competition in the market for Cellular Device Components.

174. In particular, Qualcomm and Apple conspired to violate to Qualcomm's FRAND obligations, harming purchasers of iPhones and iPads during the Class Period, by entering into a series of agreements that limited Apple's ability to secure Cellular Device Components from Qualcomm competitors or challenge Qualcomm's licensing practices as not FRAND-compliant.

175. The agreements also provided for Apple to receive valuable consideration in exchange for its participation in Qualcomm's scheme.

176. Plaintiff purchased iPhones and iPads directly from Apple.

1 177. As a result of, and but for, Qualcomm and Apple’s agreements, Plaintiff would have paid
2 less than she did for iPhones and iPads.

3 178. Section 16700 encompasses and prohibits agreements between a monopolist and its
4 customers under which the monopolist effectively coerces the customer to accede to the restraint in order
5 to obtain the good or service that is the subject of the agreement. Here, despite and in violation of its
6 FRAND obligations, Qualcomm unilaterally imposed royalty rates that were unreasonable and far above
7 what it could have obtained in a true FRAND negotiation.

8 179. Qualcomm’s conduct constitutes an illegal “trust” and “combination” under the
9 Cartwright Act. As alleged in this Complaint, Qualcomm established an unlawful scheme by which it
10 acquired and maintained monopoly power in the Modem Chipset Market and the SEP Licensing Market
11 through the anticompetitive practices set forth in this Complaint, including by excluding competition.

12 180. Baseband processors are commodity products, which share standard specifications,
13 particular the ability to operate on various wireless standards. Baseband processors are incorporated into
14 wireless devices, such as iPhones and iPads, which are also commodity products. These devices share
15 certain standard specifications.

16 181. As a direct result of Qualcomm’s unlawful conduct, Plaintiff and the Class were
17 overcharged when they purchased their devices.

18 182. No legitimate procompetitive justifications exist for the restraints of trade alleged herein.
19 The anticompetitive effects of these restraints outweigh any potential procompetitive effects.

20 183. Application of California antitrust law to the Nationwide Class is appropriate. Qualcomm
21 is headquartered in California. Qualcomm subjected its competitors as well as OEMs that reside and do
22 business in California to its unlawful conduct, resulting in Qualcomm securing a significant portion of its
23 profits as a result of its unlawful scheme from companies doing business in California. California has a
24 large population and it was therefore foreseeable that a substantial number of California purchasers would
25 be impacted by Qualcomm’s unlawful conduct as set forth in this Complaint.

FOURTH CLAIM FOR RELIEF AGAINST DEFENDANT QUALCOMM

**Violation of California's Unfair Competition Law
Cal. Bus. & Prof. Code § 17200, *et seq.*
(On Behalf of the Nationwide Class)**

184. Plaintiff repeats and incorporates by reference each proceeding and succeeding paragraph as though fully set forth herein.

185. Qualcomm's conduct as alleged in this Complaint constitutes a violation of California's Unfair Competition Law, Cal. Bus. & Prof. Code §§ 17200, *et seq.*, which prohibits, among other things, unlawful and unfair business practices.

186. Plaintiff brings this claim on behalf of herself, the Plaintiff Class, and the public as private attorneys general pursuant to Cal. Bus. & Prof. Code § 17204.

187. As set forth above, Qualcomm's conduct constitutes violations of the Sherman Act and the Cartwright Act. Therefore, Qualcomm's acts constitute unlawful conduct under § 17200. Qualcomm unlawfully acquired and maintained its monopoly over the Modem Chipset Market and the SEP Licensing Market by engaging in the anticompetitive conduct set forth in this Complaint, including, among other things, excluding competitors by refusing to license its technology to them, engaging in exclusive dealing arrangements with its customers to keep out competitors, and forcing OEMs to license its patent portfolio.

188. Qualcomm's conduct was unlawful and unfair in that it induces SSOs to use its technology on Qualcomm's promise that it would comply with FRAND obligations. After SSOs selected Qualcomm's technology for their standards, Qualcomm refused to comply with its FRAND promises and obligations.

189. Qualcomm's conduct is further unfair to Plaintiff and members of the Class because, as a direct result of Qualcomm's acts described in this Complaint, Plaintiff and members of the Class were charged more for their iPhones and iPads than they would have been but for Qualcomm's conduct.

190. Plaintiff and the Class seek and are entitled to all forms of relief available under California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17203, including restitution and disgorgement of all earnings, profits, compensation, benefits and other ill-gotten gains obtained by Qualcomm as a result of its conduct in violation of Business & Professions Code § 17200 *et seq.*

1 191. Application of California antitrust law to the Nationwide Class is appropriate. Qualcomm
2 is headquartered in California, and Qualcomm subjected its competitors as well as handset companies
3 that reside in California to its unlawful conduct. In doing so, Qualcomm obtained a significant portion of
4 its profits as a result of its unlawful scheme from companies doing business in California. Additionally,
5 California is the most populous state in the country, and it was foreseeable that substantial numbers of
6 California purchasers would be impacted by Qualcomm's unlawful behavior.

7 192. Pursuant to Business & Professions Code § 17204, Plaintiff and the Class seek an order of
8 this Court enjoining Qualcomm from continuing to engage in the acts set forth in this Complaint, which
9 acts constitute violations of Business & Professions Code § 17200, *et seq.* Plaintiff, the Class and the public
10 will be irreparably harmed if such an order is not granted, as Qualcomm's conduct is ongoing.

11 WHEREFORE, Plaintiff, on behalf of herself and all others similarly situated, respectfully
12 requests that this Court:

13 A. Certify this case as a class action under Federal Rule of Civil Procedure 23, appoint
14 Plaintiff as a Class representative, and appoint the undersigned counsel as Class counsel;

15 B. Enter injunctive and declaratory relief as appropriate under applicable law;

16 C. Order restitution or actual damages to Plaintiff and Class members;

17 D. Award Plaintiff and Class members damages and pre- and post-judgment interest, trebled
18 by law;

19 E. Order Qualcomm to provide for restitution as required by law;

20 G. Order Qualcomm to provide notice to the Class of this action and of the remedies entered
21 by the Court;

22 H. Award reasonable attorneys' fees and costs as permitted by law; and

23 I. Enter such other and further relief as may be just and proper.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury trial on all issues so triable.

Dated: April 17, 2017

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